

TARTAKOVSKIY, B. D. and RYBAK, S. A.

"On vibration of layered plates with losses"

report submitted for the 4th Intl. Congress of Acoustics,
Copenhagen, Denmark, 21-28 Aug 1962.

Acoustical Inst. of the Acad. of Sci. USSR, Moscow.

RYBAK, S.A.; TARTAKOVSKIY, B.D.

Some applications of a transitive matrix to the theory of plane waves in a system of elastic layers. Akust.shur. 8 no.1:119-123 '62. (MIRA 15:4)

1. Akusticheskii institut AN SSSR, Moskva.
(Matrices) (Sound waves)

S/046/62/008/001/018/018
B125/B104

AUTHOR: Tartakovskiy, B. D.

TITLE: V. All-Union Acoustics Conference

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 1, 1962, 141-145

TEXT: More than 800 scientists and engineers from 41 Soviet towns (about 350 from Kiyev), and 244 institutes, universities and factories attended the V. Vsesoyuznaya akusticheskaya konferentsiya (V. All-Union Acoustics Conference) organized from November 27 to December 2, 1961 in Kiyev by the Komissiya po Akustike (Acoustics Commission), Akusticheskiy institut Akademii nauk SSSR (Acoustics Institute of the Academy of Sciences USSR), Kiyevskiy ordena Lenina politekhnicheskii institut (Kiyev "Order of Lenin" Polytechnic Institute) and the Ukrainskoye respublikanskoye pravleniye NTO radiotekhniki i elektrozvyazi im. A. S. Popova (Ukraine Republic Administration of NTO Radiotechnics and Electrical Communication imeni A. S. Popov). More than 180 lectures were delivered in the two plenary sessions and in the 8 special sessions (1. nonlinear acoustics, 2. wave diffraction, 3. propagation of sound in inhomogenous media, 4. architectural

Card 1/7

V. All-Union Acoustics Conference

S/046/62/008/001/018/018
B125/B104

and building acoustics, 5. ultrasonics, 6. acoustic measurements, 7. speech and physiological acoustics, 8. noises and vibrations). According to M. I. Karnovskiy, Professor of Kiyev Polytechnic Institute and chairman of the organizing committee, the purpose of the conference was to establish ways for further developing Soviet acoustics. Professor S. N. Rzhevkin gave a historical survey of the development of acoustics in the USSR. From 1950 to 1955 30 lectures on acoustics were delivered, at the IV All-Union Acoustics Conference (May 26 - June 4, 1958) 175 already. L. A. Chernov gave a survey of the progress made in acoustics since the last conference. Interest in statistical problems is increasing. At the Simpozium po difraktsii (Symposium on Diffraction) in September 1961 both exact and approximation methods for the solution of diffraction problems were demonstrated. Measures to combat noise and vibration are meeting with success. In the ultrasonic range powers of up to 100 kw/cm² and super-high frequencies were attained. Kybernetics and information theory have been widely applied in physiological and psychological acoustics. At the first plenary session L. A. Chistovich discussed the discernment of speech by man. I. Ye. Goron discussed the experimental study of various quality limitations of a two-channel system. L. D. Rozenberg and M. G.

Card 2/7

V. All-Union Acoustics Conference

S/046/62/OC8/CO1/C18/C18
B125/B104

Sirotiyuk discussed an ultrasonic wave concentrator for several hundreds of kw/cm^2 developed at the Acoustics Institute. I. A. Viktorov studied theoretically the surface waves and their propagation. N. A. Dubrovskiy dealt with the subjective observation of signals over a noise background. The 50 lectures of the session on vibrations and noises dealt mainly with theoretical original papers on the propagation of vibrations in the elastic structures of technical buildings (L. A. Molotkov, S. A. Rybak, V. I. Zaborov, A. S. Nikiforov, B. D. Tartakovskiy et al.) and the experimental studies of the propagation of elastic vibrations in construction outside built-up areas (A. K. Novikov, S. G. Gershman, A. K. Yefimov, M. D. Genkin, V. B. Chernyshev, O. G. Shvilkina, S. Ya. Novozhilov, V. A. Zverev et al.). Ye. Ya. Yudin, P. Ye. Astaf'yev, I. N. Pisarevskiy, V. A. Zverev, V. E. Frimerg, M. M. Efrussi, M. S. Antsyferov, V. P. Kuznetsov, B. G. Zavernyayev and other authors discussed multi-channel generators and measuring instruments, instruments for directly determining the vibroacoustic properties of technical buildings etc. I. I. Klyukin, Ye. Ya. Yudin, A. G. Munin, E. N. Naumenko, N. N. Popova, S. A. Bershadskiy, V. F. Lyusov studied theoretically and experimentally new and improved classical methods of reducing noises and vibrations. Yu. A. ✓

Card 3/7

S/046/62/008/001/018/018
B125/B104

V. All-Union Acoustics Conference

Kashtalyan, G. S. Rosin, N. I. Naumkina, L. I. Trepelkova, A. S. Trakhter, M. I. Palley, M. A. Tulaykova et al. discussed the dynamic properties of sound- and vibrations-isolating and -absorbing materials and constructions, Yu. M. Yelizarov, Kh. V. Storoshchuk, V. I. Pal'gov, G. L. Osipov, A. A. Arkad'yevskiy, O. M. Rozen and other authors spoke about noises in factories and means of communication, S. N. Rzhevkin, K. M. Ivanov-Shits, K. A. Velizhanina, G. S. Sharov, V. I. Zaborov, E. N. Avferonko, N. N. Bogolepov, I. V. Lebedeva, G. A. Gol'dberg and V. M. Lebedev spoke about measurements of diffractive reflections of sound, V. S. Nemanov, M. I. Karnovskiy, V. A. Geranin, G. A. Ball, V. S. Gorbenko et al. spoke about the experimental study of statistical signals, A. V. Rimskiy-Korsakov, D. V. Bazhenov, E. P. Isayenko, Yu. A. Kravchenko, A. F. Osadchenko, A. N. Mikihechko et al. spoke about the measurements of the frequencies of complex vibrational systems, A. N. Golenkov, V. M. Bovsheverov, M. V. Laufer, G. S. Rosin, V. V. Tyutekin, R. N. Viktorova, et al. spoke about the calibration of acoustic measuring instruments etc, R. V. Dombrovskiy, A. N. Rivin, I. A. Bazhina, I. A. Lapuk, L. N. Ryabchikov et al. spoke about the measuring methods in building acoustics, V. A. Zverev, A. I. Kalachev, Ye. F. Orlov, L. A. Zhestyannikov, I. K. Spirodonova spoke about

Card 4/7

V. All-Union Acoustics Conference

S/046/62/008/001/018/018
B125/B104

measurements with modulated sound waves, M. I. Karnovskiy, A. A. Yur'yev, V. Ye. Ivanov, L. A. Yakovlev, B. A. Finagin, I. N. Kanevskiy, V. P. Kurkin et al. spoke about the theory and the calculation of ultrasonic transformers, I. G. Polotskiy, V. F. Nozdrev, S. A. Neduzhiy et al. spoke about the effect of ultrasonics on various substances, A. A. Galkin, M. Ye. Arkhangel'skiy, V. F. Kazantsev, Yu. L. Tissenbaum, L. O. Makarov et al. spoke about the effect of ultrasonics on alloys, pure metals, plastic materials etc., L. D. Rozenberg, Yu. Ya. Borisov, O. K. Eknadiosyants, M. V. Varlamov et al. spoke about the coagulation of aerosols by sound, drying and spraying by means of ultrasonics, V. L. Vlasov, V. F. Nozdrev, A. A. Berdyayev, N. B. Lezhnev, Z. L. Khodov, O. A. Kapustina, V. F. Yakovlev, P. P. Perepechko et al. spoke about the investigation of organic substances etc. by ultrasonic methods, L. G. Merkulov, P. A. Bezuglyy, I. G. Polotskiy, V. F. Taborov, M. S. Antsyferov et al. spoke about the propagation and absorption of ultrasonic and hypersonic waves in crystals, superconductors, copper monocrystals, etc., L. R. Zinder, L. V. Bondarko, L. A. Verbitskaya, G. I. Tsemel', N. V. Sukhanova, V. A. Zverev, Ye. F. Orlov et al. spoke about the objective properties of speaking, P. O. Makarov, S. N. Gol'dburt et al. spoke about

Card 5/7

V. All-Union Acoustics Conference

S/046/62/C08/OC1/018/C18
B125/B104

the connection between subjective perceptions and objective properties of speaking, L. L. Myasnikov the modelling of the sense of touch by superficial ultrasonic waves, Ye. A. Rodionova, O. V. Verzilova, A. M. Maruseva, A. Ya. Vinnikov, L. K. Titova et al. the theory of hearing, A. L. Polyakova, S. I. Soluyan, R. V. Khokhlov, G. D. Mikhaylov, K. A. Naugol'nykh et al. the propagation of nonlinear vibrations, Z. A. Gol'dberg, K. A. Naugol'nykh, G. A. Ostroumov, P. H. Kubanskiy nonlinear effects in intense sound waves, Yu. L. Gazaryan, A. D. Lapin, A. N. Barkhatov et al. regular propagation in various waveguides, layers, and channels, V. A. Zverev, M. A. Kallistratova, M. F. Bakhareva, E. A. Blyakhman, Yu. A. Ryzhov, B. F. Kur'yanov et al. the propagation of sound in statistically inhomogeneous media, I. A. Molotkov, V. S. Buldyrev, A. I. Lanin, I. N. Yermolov, V. A. Borovikov, L. M. Lyanshev, A. A. Tuzhilin, B. Z. Katsenelenbaum, R. P. Starovoytov et al. diffraction by various obstacles, V. Yu. Zavadskiy, V. N. Krasil'nikov, Ye. P. Masterov et al. the propagation of various waves in elastic inhomogeneous media and plates and finally G. D. Malyuzhinets, V. N. Krasil'nikov, Yu. A. Ukhanov, V. Yu. Zavadskiy, M. P. Sakharova, N. S. Smirnov, et al. discussed new theoretical methods of studying diffraction. The organizing committee

Card 6/7

S/046/62/008/001/018/018
B125/B104

V All-Union Acoustics Conference

(chairman M. I. Karnovskiy, deputy chairman L. A. Chernov, and O. M. Gaplichuk, scientific secretary G. V. Glekin) is thanked for organizing the conference.

Card 7/7

S/046/62/008/002/006/016
 B104/B138

24.1600

AUTHORS: Maslov, V. P., Tartakovskiy, B. D.
 TITLE: Propagation of flexural vibrations in several inhomogeneous rods

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 2, 1962, 194 - 198

TEXT: The problem is the propagation of transverse waves in a series of rods, connected by butt joints. Each rod satisfies the conditions of pure bending and has arbitrary elasticity parameters and cross section. No rod is less than one and a half times the lengths of a transverse wave. Using this condition, the coefficients of reflection and transmission of the transverse wave potentials through n intermediate rods can be calculated with the aid of recurrence formulas:

$$R_{0,n+1} = \frac{R_{0n} + (D_{0n}D_{n,n+1} - R_{0n}R_{n,n+1}e^{i2\gamma_n})}{1 - R_{n0}R_{n,n+1}e^{i2\gamma_n}}, \quad (1) - (2).$$

$$D_{0,n+1} = \frac{D_{0n}D_{n,n+1}e^{i\gamma_n}}{1 - R_{n0}R_{n,n+1}e^{i2\gamma_n}}$$

Card 1/3

Propagation of flexural vibrations...

S/046/62/008/002/006/016
B104/B138

The transmission and reflection coefficients of the entire system of rods can be calculated from

$$\begin{aligned} R_{0,n+1} &= Q_n / S_n, \\ D_{0,n+1} &= N_n / S_n, \end{aligned} \quad (8) - (9)$$

$$\begin{aligned} \text{where } S_n &= 1 - \sum_{q=1}^n \sum_{p=1}^q P_{pq} + \sum_{s=1}^{n-2} \sum_{r=1}^s \sum_{q=1}^r \sum_{p=1}^q P_{r+s, s+1} P_{pq} - \\ &- \sum_{u=1}^{n-4} \sum_{l=1}^u \sum_{s=1}^l \sum_{r=1}^s \sum_{q=1}^r \sum_{p=1}^q P_{l+4, u+4} P_{r+s, s+1} P_{pq} + \dots, \\ Q_n &= \sum_{p=1}^{n+1} T_{p-1} - \sum_{r=1}^{n-1} \sum_{q=1}^r \sum_{p=1}^q P_{q+1, r+1} T_{p-1} + \\ &+ \sum_{u=1}^{n-3} \sum_{s=1}^u \sum_{r=1}^s \sum_{q=1}^r P_{u+3, s+3} P_{q+1, r+1} T_{p-1} - \dots, \\ N_n &= \prod_{l=0}^n D_{l, l+1} e^{\sum_{k=1}^l \gamma_k}. \end{aligned} \quad (10) - (12)$$

Propagation of flexural vibrations...

S/046/62/008/002/006/016
B104/E138

and выражений (10) — (12) приняты сокращения:

$$P_{pq} = R_{p, p+1} R_{q, q-1} e^{i \sum_{k=1}^q \varphi_k}, \quad T_p = R_{p, p+1} e^{i \sum_{k=1}^p \varphi_k}.$$

Despite the above restrictions, results obtained from these formulas for rods only half the wavelength, deviate from the experimental results by only 10%. /A

ASSOCIATION: Akusticheskiy institut AN SSSR Moscow (Acoustics Institute AS USSR, Moscow)

SUBMITTED: April 26, 1961

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B104/B138

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AUTHOR: Tartakovskiy, B. D.

TITLE: Amplification factor of a solid sound lens with losses

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 2, 1962, 228 - 232

TEXT: The maximum amplification factor of a solid sound lens depends on the material and shape of the lens. The frequency characteristics are compared, for solid sound lenses made from materials with attenuation factors linearly or quadratically dependent on frequency. Up to 10^5 cps plastics can be used as lens materials. In the range of flaw detection frequencies ($10^6 - 10^7$ cps) aluminum and its alloys are better. The usability of the material can be characterized by the maximum possible amplification factor. For materials for which the losses are proportional to frequency, this amplification coefficient is

$$K = \frac{8\pi}{\rho_0 c_0} \left[\frac{1}{N} \frac{1-n}{n} \frac{p}{\left(1 + \frac{p}{\rho_0} \frac{1}{n}\right)^2} \right], \quad (12);$$

Card 1/2

Amplification factor of a solid...

S/046/62/008/002/012/016
B104/B138

for materials whose losses depend quadratically on frequency it is:

$$K = \frac{5,1\pi\sqrt{l}}{\rho_0 c_0} \left[\frac{1}{\sqrt{N}} \frac{1-n}{n} \frac{\rho}{\left(1 + \frac{\rho}{\rho_0} \frac{1}{n}\right)^2} \right] \cdot (13).$$

The expressions in square brackets describe the quality of the material.
The amplification factor at a given frequency is

$$K = \frac{2\pi}{c_0} \frac{4 \frac{\rho c_d}{\rho_0 c_0} (1-n)}{\left(1 + \frac{\rho c_d}{\rho_0 c_0}\right)^2} \left[\frac{1-e^{-\gamma l}}{\gamma} \right] /, (14).$$

The expression in the brackets describes the usability of the material at a given frequency. There are 3 figures.

ASSOCIATION: Akusticheskiy institut AN SSSR Moscow (Acoustics Institute
AS USSR, Moscow)

SUBMITTED: January 25, 1961

Card 2/2

TARTAKOVSKIY, B.D.

Aberration characteristics of sound lenses. Akust.zhur. 8
no.3:350-357 '62. (MIRA 15:11)

1. Akusticheskiy institut AN SSSR, Moskva.
(Optics, Geometrical) (Sound lenses)

S/053/62/078/004/004/004
B102/B106

AUTHOR: Tartakovskiy, B. D.

TITLE: Vtoroy vsesoyuznyy simpozium po difraktsii voln (Second
All-Union Symposium on Wave Diffraction)

PERIODICAL: Uspekhi fizicheskikh nauk, v. 78, no. 4, 1962, 701-721

TEXT: The symposium was called by the Komissiya po akustike Akademii nauk SSSR (Commission on Acoustics of the Academy of Sciences USSR) and the Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom gosudarstvennom universitete im. N. I. Lobachevskogo (Scientific Research Institute of Radiophysics at the Gor'kiy State University imeni N. I. Lobachevskiy) and was held from June 4 to 9, 1962, in Gor'kiy. It was attended by 314 scientists, among them the Academicians V. A. Fok and V. D. Kupradze. The opening address was read by Professor G.D.Malyuzhinets. More than 120 lectures were delivered, the most important of which are here briefly discussed: Some problems of wave diffraction and propagation (G. I. Makarov); Physical theory of diffraction (P. Ya. Ufimtsev); Approximate solution of certain diffraction problems (V. D. Kupradze); Investigation of the non-analytic parts of the wave field in nonstationary
Card 1/6

S/053/62/078/004/004/004
B102/B186

Vtoroy vsesoyuznyy simpozium...

diffraction problems (V. S. Buldyrev, I. A. Molotkov); Directivity diagrams for certain types of antennas (L. D. Bakhrakh, Ya. N. Fel'd); Transverse diffusion of short waves on a convex cylinder (V. A. Fok, G.D.Malyuzhinets, L. A. Vaynshteyn); Electromagnetic field structure of real antennas (G. N. Krylov); Wiener-Hopf-Fok-type integral equations applied to diffraction problems (V. I. Talanov); Theory of nuclear diffraction (A. G. Sitenko); Diffraction of a plane wave on an infinite cone (I. G. Yakushkin); Correlation between axisymmetric and cylindrical solutions of electromagnetic-wave polarization problems in the case of equal section profiles of the bodies considered (B. Ye. Kinber, A. A. Fedorov); Local method of acoustic-wave field calculation (B. Ya. Gel'chinskiy); Exact mathematical justification of two-dimensional approximation in geometrical optics (V. M. Babich); Asymptotic solution to the problem of diffraction of short-electromagnetic waves on an ideally conducting surface (Yu. G. Gukasov, I. V. Sukharevskiy); Separation of variables in the problem of diffraction on an arbitrarily shaped body (R. G. Barantsev); Calculation of the main components of the wave field (N. S. Smirnov); Mathematical problems of diffraction (D. Z. Avazashvili); Uniqueness theorems in boundary-value problems of diffraction theory (I. A. Urusovskiy);

Card 2/6

S/053/62/078/004/004/004
B102/B186

Vtoroy vsesoyuznyy simpozium...

Sommerfeld conditions for elliptic operators of arbitrary order (O. I. Panich, B. R. Vaynberg); Integral equations in the boundary-value problem of plane-wave diffraction (V. A. Afanas'yev); Reflection of acoustic waves from smooth surfaces (A. F. Filippov); Motion of a rigid band induced by the momentum of a wave (L. M. Flitman); Spatial diffraction on an infinite prism (V. A. Borovikov); Formation of unstabilized waves in a rotating basin (S. S. Voyt); Nonstationary wave field excited between two elastic semispaces (P. V. Krauklis); Diffraction of ship waves (L. N. Sretenskiy); Stopping of electromagnetic shock waves in ferrite-lines waveguides (G. I. Freydmann); Wave diffraction around a half-submerged elliptic cylinder (S. M. Travinin); Behavior of ship waves below an uneven periodic bottom (M. G. Sukharev); Electromagnetic waves in an infinite plane waveguide (V. V. Martsafey); Determination of the velocity field of laminar air flow (I. G. Petritskaya); Diffraction of electromagnetic waves on an ideally conducting disc (M. G. Belkina, Ye. A. Ivanov); Diffraction of plane waves on a moving torus with elliptic cross section (P. I. Tsou); Resistance of radiation from a Hertzian dipole placed near an ideally conducting paraboloid of revolution (I. N. Korbanskiy); Electrodynamics of ideally conducting bodies with complex configuration (N. A. Yablochkin); Boundary-

Card 3/6

S/053/62/078/004/004/004
B102/B186

Vtoroy vsesoyuznyy simpozium...

value problem of diffusion on a wedge (G. D. Malyuzhinets, G. V. Vinel');
Diffraction of spherical electromagnetic waves in a wedge-shaped corner
(A. A. Tuzhilin, R. P. Starovoytova, M. S. Bobrovnikov); Diagrams of radiation
sources placed on the surface of an ideally conducting infinite wedge
(L. N. Lemanskiy, L. N. Zakhar'yev); Diffraction of acoustic waves in a
liquid semispace on two elastic plates on its surface (D. P. Kouzov);
Physical theory of wave diffraction on bodies with cracks (L. A. Cherches);
Diffraction on the open end of a plane sectorial loudspeaker (B. Ye. Kinber);
Waveguides with mirror phase converters (N. G. Bondarenko, V. I. Talanov);
Integral equations of first kind with regular kernel for harmonics of
surface current of a body of revolution (V. V. Kravtsov); Wave diffraction
and scattering from spherical bodies (Z. A. Yanson, V. S. Buldyrev,
G. I. Petrashen', O. A. Germogenova, G. V. Rozenberg, Yu. A. Yerukhimovich,
Yu. V. Pimenov, D. S. Chernavskiy); Numerical methods for solving problems of
wave diffraction and propagation (Ye. N. Vasil'yev, A. R. Seregina,
N. N. Govorun, D. M. Sazonov, A. F. Chaplin); Wave propagation in laminar
media (V. Yu. Zavadskiy, Ya. I. Sekerzh-Zen'kovich, L. V. Iogansen);
Propagation of elastic waves in a semi-infinite liquid bounded by an elastic
plane plate (V. N. Krasil'nikov); l-f vibrations of an elastic layer
(L. A. Molotkova); Diffraction on periodic wave-shaped surfaces (A. D. Lapin.
Card 4/6

Vtoroy vsesoyuznyy simpozium...

S/053/62/078/004/004/004
B102/B166

G. V. Poddubnyy, Yu. N. Cherkashin, V. I. Aksenov); waveguide problems (L. A. Vaynshteyn, A. S. Il'inskiy, A. G. Sveshnikov, N. P. Kerzhentseva); Simulation of sound propagation (A. I. Barkhatov); diffraction of electromagnetic waves in radioscopy (A. D. Petrovskiy); Problems of wave-propagation simulation (G. P. Prudkovskiy, G. P. Grudinskaya, Yu. K. Kalinin, Ya. S. Rodionov, O. G. Shamin); Propagation of radiowaves along the Earth's surface (V. N. Troitskiy); VHF wave diffraction on mountains (S. A. Amanov); Choice of optimum impedance in wave propagation problems (G. N. Krylov, A. D. Petrovskiy); Lattice electrodynamics (L. A. Vaynshteyn); Diffraction of electromagnetic waves on a lattice (V. V. Malin, L. Levin); Electromagnetic wave diffraction on lattices (O. A. Tret'yakov, D. V. Khoroshun, V. P. Shestopalov, A. I. Adonina, V. P. Shestopalov, S. A. Masalov, Ye. N. Podol'skiy, I. Ye. Tarapov); Wave propagation and diffraction in plasma (G. I. Makarov, V. V. Zheleznyakov, Ye. Ya. Zlotnik, N. A. Kuz'min, M. Ye. Gertsenshteyn, V. I. Pustovoyt, N. G. Denisov, L. S. Dolin); Reception of fluctuating radiation (N. G. Denisov); Diffraction of modulated waves on random inhomogeneities (V. A. Zverev); Interaction between electromagnetic waves and charged-particle clouds (V. B. Gil'denburg, A. V. Gurevich, M. D. Khaskind, Yu. K. Kalinin, Yu. S. Sayasov); Reflection and refraction

Card 5/6

S/053/62/078/004/004/004
B102/B186

Vtoroy vsesoyuznyy simpozium...

of electromagnetic waves in non-uniform plasma (V. B. Gil'denburg, I. G. Kondrat'yev); Emission of electromagnetic waves (V. Ya. Eydman, G. N. Krylov, B. M. Bolotovskiy, V. P. Dokuchayev, Yu. P. Verbin); Diffraction from gyrotropic bodies (Yu. V. Vaysleyb, A. T. Fialkovskiy, G. I. Freydmann, V. A. Permyakov); Reflection of electromagnetic waves from randomly uneven surfaces (V. I. Mikhaylov, R. G. Barantsev, L. M. Yurkova, I. N. Tamoykina, E. P. Gulin). The next (third) symposium will be held in May 1964 at Tbilisi. ✓

S/046/63/009/001/012/026
B104/B186AUTHORS: Rybak, S. A., Tartakovskiy, B. D.

TITLE: On the oscillations of thin plates

PERIODICAL: Akusticheskiy zhurnal, v. 9, no. 1, 1963, 66 - 71

TEXT: Making use of the exact solutions of the oscillation problem of a plane elastic layer, an attempt is made to find equations of symmetric and antisymmetric oscillations of thin plates in arbitrary approximation according to kh without additional hypothesis. The equations

$$(\hat{A}_1 \hat{B}_1 - \hat{C}_1 \hat{D}_1) U_{,0} = (\hat{A}_1 - \hat{C}_1) \frac{P_1 - P_2}{2(\lambda + 2\mu)} - (B_1 - D_1) \frac{\nabla_r (\tau_1 + \tau_2)}{2\mu}, \quad (5)$$

$$\hat{A}_1 = (\Delta_r + \hat{M}_1) \cos i; \quad \hat{B}_1 = \left(-\hat{M}_1' + \frac{\lambda}{\lambda + 2\mu} \Delta_r \hat{M}_1' \right) \sin i,$$

$$\hat{C}_1 = 2\Delta_r \cos i; \quad \hat{D}_1 = -\frac{2\mu}{\lambda + 2\mu} \hat{M}_1' \sin i,$$

Card 1/3

On the oscillations of thin plates

S/046/63/009/001/012/026
 B104/B186

$$\begin{aligned}
 (\lambda_1 \hat{B}_1 - \hat{C}_1 \hat{D}_1) U_{r0} &= -(\lambda_1 - \hat{C}_1) \frac{\nabla_r (P_1 + P_2)}{2(\lambda + 2\mu)} + (\hat{B}_1 - \hat{D}_1) \frac{v_1 - v_2}{2\mu}, \quad (6) \\
 \hat{A}_1 &= -(\hat{M}_1'' + \text{Grad Div } \hat{M}_1'') \sin t; \quad \hat{B}_1 = \left(-\hat{M}_1 + \frac{\lambda}{\lambda + 2\mu} \Delta_r \right) \cos t, \\
 \hat{C}_1 &= -2\hat{M}_1'' \sin t; \quad \hat{D}_1 = -\frac{2\mu}{\lambda + 2\mu} \text{Grad Div } \cos t; \quad \cos_{t(1)} = \cos \left(\frac{h}{2} \hat{M}_1''(h) \right),
 \end{aligned}$$

are derived, which describe the transverse and longitudinal oscillations of a point in the middle plane of a thin layer. Here,

$$\begin{aligned}
 \hat{M}_1 &= -\frac{1}{q} \frac{\partial^2}{\partial t^2} + \Delta_r, \\
 \hat{M}_1 &= -\frac{1}{q} \frac{\partial^2}{\partial t^2} + \Delta_r, \quad \left(\Delta_r = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} \right). \quad (2),
 \end{aligned}$$

and $\sin_{t(1)} = \sin \left(\frac{h}{2} \hat{M}_1''(1) \right)^{1/2}$. These equations unite the shift of a given point in the middle plane with the forces given at a point at a finite distance from it. This leads to the presence of arbitrary-order differential operations in these equations and every term represents an infinite series

Card 2/3

S/046/63/009/001/012/026
 B104/B186

On the oscillations of thin plates

of differential operations over the corresponding quantities. The shifts at the boundaries of the plate are connected with those of the middle plane, and equation

$$\rho h \ddot{U}_{10} + \frac{\lambda^2 4\mu (\lambda + \mu)}{12 (\lambda + 2\mu)} \Delta^2 U_{10} + 3\rho \frac{\lambda^2}{12} b \Delta U_{10} +$$

$$+ \rho \frac{\lambda^2 4\mu (\lambda + \mu)}{12 (\lambda + 2\mu)} \frac{\lambda^2}{4\mu} c \Delta^2 U_{10} = d (P_1 - P_2), \quad (12)$$

$$d = 1 - \frac{\lambda^2}{4} \left(\frac{3}{2} - \frac{\mu}{\lambda + 2\mu} \right) \Delta.$$

is derived describing the bending waves. In a comparison with results of approximate theories it is shown that the equation of S. P. Timoshenko (Kolebaniya v inzhenernom dele - Oscillations in engineering fields, M. Fizmatgiz, 1959, 314 - 315) shows good approximations. There is 1 figure.

ASSOCIATION: Akusticheskiy institut AN SSSR, Moskva (Acoustics Institute AS USSR, Moscow)

SUBMITTED: July 26, 1962

Card 3/3

TARTAKOVSKIY, B.D.

"Noise and sound vibration control on ships" by I.I.Kliukin.
Reviewed by B.D.Tartakovskii. Akust. zhur. 9 no.1:133-134
'63. (MIRA 16:5)

(Bibliography--Noise control)
(Bibliography--Vibration (Marine engineering))
(Kliukin, I.I.)

TARTAKOVSKIY, P.D.

Experimental study of the gain of focusing acoustic lenses.
Akust. zhur. 9 no.3:336-339 '63. (MIRA 16:8)

1. Akusticheskiy institut AN SSSR, Moskva.
(Underwater acoustics) (Sound—Apparatus)

TARTAKOVSKIY, B.D.

Diffraction pattern of a point image obtained by sound lenses.
Akust. zhur. 9 no.4:473-480 '63. (MIRA 17:3)

1. Akusticheskiy institut AN SSSR, Moskva.

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KUDEYAVTSEVA, T.D.; TARTAKOVSKIY, B.D.

Effect of errors in the construction of two-layered systems on
their sound insulation properties. Akust. zhur. 11 no.1:62-6/
165. (MIRA 18:4)

1. Akusticheskiy institut AN SSSR, Moskva.

TARTAKOVSKIY, B.D.

Bibliography. Akust. zhur. 11 no.1:133-134 '65.

(MIRA 18:4)

L 12064-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k)/EWA(h)/ETC(j) IJP(c) MW/EM
ACC NR: AP5021477 SOURCE CODE: UR/0046/55/011/003/0306/0312

AUTHORS: ^{44 55} Borisov, L. P.; ^{44 55} Tartakovskiy, B. D.

ORG: Acoustics Institute AN SSSR, Moscow (Akusticheskiy institut AN SSSR)

TITLE: Propagation of flexural waves ²⁶ in a ²⁶ plate with thin obstacles

SOURCE: Akusticheskiy zhurnal, v. 11, no. 3, 1965, 306-312 ²⁶

TOPIC TAGS: flexural vibration, sound propagation, acoustic impedance, mathematic matrix

^{10, 44, 55} ABSTRACT: Matrix-algebra methods are used to determine the propagation of flexural waves in structures (wagons, airplanes, ships, etc.) consisting of shells periodically crossed by obstacles. It is assumed that the width of contact between the obstacle (stiffening member) and the plate is small compared with the wavelength in the plate, so that the flexural waves can be regarded as being normally incident on the obstacle. The obstacles are characterized by their force and moment impedances. The form of the matrix of transmission of a wave through one obstacle is determined. A connection is established between the transmission and reflection coefficients and the coefficients of the

Card

1/2

UDC: 534.121.1:534.212

L 12064-66

ACC NR: AP5021477

matrix of transition through n obstacles. The transmission coefficient is calculated for a flexural wave passing through two obstacles with moment impedance N . A family of diagrams is presented, characterizing the dependence of the coefficient of transmission of the frequency for different values of the dimensionless moment impedance. Orig. art. has: 4 figures and 13 formulas.

SUB CODE: 20/ SUBM DATE: 30May64/ NR REF SOV: 001

OC
Card 2/2

L 18446-66 ENT(m)/EWP(j)/T WA/RH

ACC NR: AP6002546

SOURCE CODE: UR/0206/65/000/023/0045/0046

AUTHORS: Trepelkova, L. I.; Tartakovskiy, B. D.; Paley, M. I.; Naumkina, N. I.
Li, P. Z.

ORG: none

TITLE: Method for plasticizing epoxy resins and compositions based on them. Class 39, No. 1766755

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, No. 23, 1965, 45-46

TOPIC TAGS: epoxy plastic, plasticizer, polyether/ POA-5 polyether

ABSTRACT: This Author Certificate presents a method for plasticizing epoxy resins and compositions based on them by using polyether. To broaden the selection of plasticizers and to add vibration absorption properties to the epoxy compositions, the polyether POA-5 is used as the plasticizer. This is a product of the interaction of dibutyladipate and a mixture of diethylene glycol and ethylene glycol.

SUB CODE: 11, 07/ SUBM DATE: 21Jan65

UDC: 678.643.42.5 678.674.04

Card 1/1

SOV-127-58-3-20/24

AUTHORS: ~~Tartakovskiy, B.N.~~ and Borisyuk, R.F.

TITLE: Scientific-Technical Conference on Strip Mining of Deposits
(Nauchno-tekhnicheskaya konferentsiya po otkrytoy razrabotke mestorozhdeniy)

PERIODICAL: Gornyy zhurnal, 1958, Nr 3, p 76 (USSR)

ABSTRACT: This conference was convened in November 1957 on the occasion of the 40th anniversary of the October revolution and took place in the Dnepropetrovskiy gornyy institut (Dnepropetrovsk Mining Institute). It was concerned with strip mining of the Ukraine deposits. Over 30 lectures were delivered. Professor, Doktor of Technical Sciences, M.G. Novozhilov (Dnepropetrovsk Mining Institute) delivered a lecture on "Timely questions of perfecting the strip mining of mineral deposits" who, after having enumerated the achievements, indicated many defects of the industry: inferior qualities and shortage of excavators, dumptrucks, etc. The Chief Engineer of the Institut Krivbassproyekt (The "Krivbassproyekt" Institute) M.N. Zhukov delivered a lecture on the "Development of the Extraction of iron ores by strip mining methods in Krivoy Rog Basin". He said that the explored huge reserves of ores situated in

Card 1/2

SOV-127-58-3-20/24

Scientific-Technical Conference on Strip Mining of Deposits

favorable conditions allow the development of strip mining on a large scale. The head of the Podotdel margantsovoy i flyusovoy promyshlennosti Gosplana USSR (Subdivision of manganese and flux industry of the Gosplan of the Ukr. SSR.) V.P. Donchenko said that the plan of the development of the Nikopol' manganese region foresees the increase of strip mining of ores in 1960 to 55% and in 1965 to 75% of the total output. Doktor of Technical Sciences Ye.F. Epshteyn reported on the utilization of thermal drilling with a reactive burner, drilling with the help of an electro-hydraulic procedure, drilling with the help of ultra and infrasonic vibrations and of currents of high and ultra-high frequency. It was also reported that the equipment for strip mines does not meet the requirements of the industry, especially a shortage of engines of continuous operation, excavators, conveyor belts etc. The lack of collaboration between various scientific research institutions was also mentioned. The scientific information is insufficiently organized and literature on strip mining is published in insufficient quantities.

1. Mining industry—USSR
2. Mining engineering
3. Mining equipment

Card 2/2

TARTAKOVSKIY, B.N., inzh.

Efficiency of using powerful continuous machine units in strip mines
of the Dnieper Basin. Nauch. zap. Ukrniiproekta no.2:99-108 '60.
(MIRA 15:1)

(Dnieper Basin--Coal-handling machinery)

NOVOZHILOV, M.G., prof.; TARTAKOVSKIY, B.N., inzh.; BORISYUK, R.F., inzh.

Grounds for the selection of a type of console-belt waste-stacker
for Ukrainian lignite mines. Izv.vys.ucheb.zav.; gor. zhur. no.6:
15-26 '60. (MIRA 14:5)

1. Dnepropetrovskiy gornyy institut imeni Artema. Rekomendovana
kafedroy rudnykh mestorozhdeniy i otkrytykh rabot.
(Ukraine--Coal mines and mining)
(Conveying machinery)

**ZELENSKIY, N.M.; KORSUN', M.Ya.; STEFANOVICH, V.I.; TARTAKOVSKIY, B.N.;
ANIKRYEV, I.Ya. (Moskva)**

**Mechanization of mining operations; underground and open-cut
workings. I.R. Voroshilin. Reviewed by N.M. Zelenski and
others, Gor.zhur. no.10:78-80 O '60.**

(MIRA 13:9)

- 1. Dnepropetrovskiy gornyy institut (for Tartakovskiy).
(Mining engineering--Equipment and supplies)
(Voroshilin, I.R.)**

NOVOZHILOV, M.G., prof.; TARTAKOVSKIY, B.N., inzh.; SHALIMANOV, I.P.,
inzh.

Use of conveyer bridges in open-cut lignite mines in the Dnieper
Basin. Izv. vys. ucheb. zav.; gor. zhur. no. 11:39-50 '60.
(MIRA 13:12)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy
institut imeni Artema. Rekomendovana kafedroy razrabotki
rudnykh mestorozhdeniy i otkrytykh rabot Dnepropetrovskogo
gornogo instituta.

(Dnieper Basin--Strip mining) (Excavating machinery)
(Mine haulage)

NOVOZHILOV, M.G., prof., doktor tekhn.nauk; SHARKOV, A.M., kand.tekhn.
nauk; TARTAKOVSKIY, B.N., gornyy inzh.

New techniques in baring operations for Donets Basin lignite
deposits. Ugol' Ukr. 4 no.2:23-25 P '60. (MIRA 13:6)

(Donets Basin--Lignite) (Mining engineering)

TARTAKOVSKIY, B.N.

Cand Tech Sci - (diss) "Study of system of open working of deposits of the Ukraine with soft covering rock." Moscow, 1961. 17 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Mining Inst imeni I. V. Stalin); 200 copies; price not given; list of author's works on pp 16-17 (13 entries); (KL, 7-61 sup, 246)

NOVOZHILOV, M.G., prof., doktor tekhn. nauk; SEL'YANIN, V.G.; TARTAKOVSKIY, B.N.; Primalni uchastiye: PCHELKIN, G.D., inzh.; ESKIN, V.S., inzh.; SHARKOV, A.M., kand. tekhn. nauk; BORISYUK, R.F., inzh.; ABDUFATTAKHOV, A.A., inzh.; ANDRIYENKO, A.F., inzh.; KITTOROV, P.M., inzh.; GLUSKIN, L.I., inzh.; LEVCHENKO, N.K., inzh.; GAVRILYUK, I.I., inzh.; SHPEKTOROV, Yu.Z., inzh.; KOCHERGA, N.T., red.; GORKAVENKO, L.I., tekhn. red.

[New technical methods and equipment in open-pit mining of mineral deposits] Novaia tekhnologiya otkrytoi razrabotki mestorozhdenii poleznykh iskopaemykh. Pod obshchei red. M.G. Novozhilova. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1961. 205 p. (MIRA 15:5)

(Strip mining)

NOVOZHILOV, M.G., prof.; TARTAKOVSKIY, B.N., inzh.

New technical methods and equipment for open-pit mining of
the Nikopol' manganese deposit. Izv. vys. ucheb. zav.; gor.
zhur. no.6:11-18 '61. (MIRA 16:7)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy
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rudnykh mestorozhdeniy i otkrytoy razrabotki.
(Nikopol' region—Manganese mines and mining—
Equipment and supplies)

POLYAKOV, N.S.; SEL'YANIN, V.G., kand.tekhn.nauk; TARTAKOVSKIY, B.N., inzh.;
PCHELKIN, G.D., inzh.

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N. S. Poliakov and others. Gor. zhur. no.11:78-79 N '61.
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USSR (for Polyakov).

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NOVOZHILOV, M.G., prof.; SHARKOV, A.M., kand.tekhn.nauk; TARTAKOVSKIY, B.M.,
gornyy inzh.

New method of excavating trenches in the construction of lignite
open-pit mines in the Ukraine. Ugol' Ukr. 5 no.3:28-29 Mr '61.
(Ukraine--Strip mining)

NOVOZHILOV, I.G., prof., doktor tekhn.nauk; SHARKOV, A.M., kand.tekhn.nauk;
TARTAKOVSKIY, B.N., gorn.inzh.; VARSNAVSKIY, A.M., gorn.inzh.

Practice in the operation of conveyor bridges for waste dumping
in the lignite open-pit mines of the Dnieper Basin. Ugol' 36
no.2:24-30 F '61. (MIRA 14:2)
(Dnieper Basin--Strip mining) (Mine haulage)

NOVOZHILOV, M.G., prof.; TARTAKOVSKIY, B.N., inzh.; GAVRILYUK, I.I., inzh.

New technique for the open working of deposits of flux limestones
of the Karakubekoye Ore Administration. Sbor.trud.VNIINegrud
no.1:24-33 '62. (MIRA 15:7)

1. Dnepropetrovskiy gornyy institut.
(Limestone) (Ukraine—Strip mining)

NOVOZHILOV, M. G., prof.; TARTAKOVSKIY, B. N., kand. tekhn. nauk;
ABDUFATTAKHOV, A. A., inzh.

Improved technical methods and equipment in open-cut operations
in iron ore pits of the Kerch Basin. Izv. vys. ucheb. zav.;
gor. zhur. 5 no.8:3-11 '62. (MIRA 15:10)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy
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(Kerch Basin—Strip mining)

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A.A., inzh.; BARSUKOV, M.I., inzh.

Basic parameters of working trenches in constructing open pits with
continuously operating machines. Izv. vys. ucheb. zav.; gor. zhur.
5 no.10:18-26 '62. (MIRA 15:11)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy
institut imeni Artema. Rekomendovana kafedroy otkrytykh rabot.
(Nikopol' region—Strip mining)

TARTAKOVSKIY, Boris Nusimovich, kand. tekhn. nauk; SELYANIN, Vitaliy Georgiyevich, kand. tekhn. nauk; RZHEVSKIY, V.V., prof., doktor tekhn. nauk, retsenzent; MOLCHANOV, P.V., kand. tekhn. nauk, retsenzent; NURMUKHAMEDOVA, V.F., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Mining minerals by the open cut method] Razrabotka mesto-
rozhdanii poleznykh iskopaemykh otkrytym sposobom. Moskva,
Gosgortekhzdat, 1963. 194 p. (MIRA 16:12)
(Strip mining) (Quarries and quarrying)

TARTAKOVSKIY, Boris Nusimovich; VARSHAVSKIY, Anatoliy Mikhaylovich;
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va; MAKSIMOVA, V.V., tekhn.red.; IOMILINA, L.N., tekhn.red.

[Mechanization of railroad track relocation in open-pit
mines] Mekhanizatsiia peredvizhki zheleznodorozhnykh putei
na kar'erakh. Moskva, Gosgortekhzdat, 1963. 183 p.
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(Mine railroads--Track)

POPOV, Georgiy Nikolayevich; NEKRASOVSKIY, Ya.E., prof., retsenzent;
TARTAKOVSKIY, B.N., kand. tekhn. nauk, retsenzent; ARSENT'YEV,
A.I., dots., retsenzent; LAVRINENKO, V.F., dots., retsenzent;
KULIKOV, V.V., kand. tekhn. nauk, otv. red.; PARTSEVSKIY, V.N.,
red.izd-va; SHKLYAR, S.Ya., tekhn. red.; MAKSIMOVA, V.V., tekhn.
red.

[Working mineral deposits] Razrabotka mestorozhdenii poleznykh
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1963. 588 p. (MIRA 16:7)

(Mining engineering)

NOVOZHILOV, M.G., doktor tekhn. nauk; TARTAKOVSKIY, B.N., kand. tekhn. nauk; GAVRILYUK, I.I., inzh.

Ways of increasing labor productivity in flux limestone quarries of the Ukraine. Met. 1 gornorud. prom. no. 4:46-49
Jl-Ag '63. (MIRA 16:11)

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2. Otdeleniye gornorudnykh problem Instituta elektrotekhniki AN UkrSSR (for Tartakovskiy, Gavrilyuk).

NOVOZHILOV, M.G., prof., doktor tekhn.nauk; TARTAKOVSKIY, B.N., kand.tekhn.
nauk; ESKIN, V.S., inzh.; KOLESNIK, A.N., inzh.

New technological layouts for using the open-pit method to
work Ukrainian manganese ore deposits. Gor. zhur. no.9:12-16
S '63. (MIRA 16:10)

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TARTAKOVSKIY, B.N.; KOVALENKO, A.A.; BARSUKOV, M.I.; VARSHAVSKIY, A.M.

Improving mining technology using a transporter system
of mining with continuous machine units, Izv. AN Kir. SSR.
Ser. est. i tekhn. nauk 5 no.1:51-61 '63. (MIRA 16:11)

NOVOZHILOV, M.G., prof.; TARTAKOVSKIY, B.N., kand. tekhn. nauk; GAVRILYUK,
I.I., inzh.; LASHKO, V.T., inzh.

Parameters of pile-forming conveyors equipped with a swivel-
component dumping device. Izv. vys. ucheb. zav.; gor zhur. 6
no.9:27-34 '63. (MIRA 17:1)

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institut imeni Artema. Rekomendovana kafedroy otkrytykh rabot.

TARTAKOVSKIY, B.N., kand. tekhn. nauk; KOVALENKO, A.A., inzh.;
BARSUKOV, M.I., inzh.

Determination of the parameters of working trenches for open
pits in the Nikopol' manganese deposit. Shakht. stroi. 7 no.6:
15-17 Je '63. (MIRA 16:7)

1. AN UkrSSR.
(Nikopol' region--Strip mining)

ABDUKAKHAROV, M.; TARTAKOVSKIY, B.N.; GORULYA, Ye.N.

Analysis of the operation of a conveyor system as dependent on
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1. Gornyy otdel AN UzSSR.

SHVERNIK, Aleksandr Mikhaylovich; SOKOLOV, Anatoliy Valentinovich;
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Fedorovich; LASKIN, Anatoliy Aronovich; LUR'YE, Zakhar
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M.G., retsenzent; BILLICHENKO, N.Ya., retsenzent; VARSHAVSKIY,
A.M., retsenzent; TARTAKOVSKIY, B.N., retsenzent. Prinimali
uchastiye: ANTONOV, V.A., inzh.; VERBLYUNSKIY, Yu.I., inzh.;
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[Overall mechanization and automatic control in strip mines]
Kompleksnaya mekhanizatsiya i avtomatizatsiya na kar'erakh.
Moskva, Nedra, 1964. 582 p. (MIRA 18:4)

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ROYZEN, Ya.Sh.

Efficient procedure for overburden removal using a combined
system of working. Met. i gornorud. prom. no.3:53-56 My-Je '64.
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Ogneupory 29 no.4:172-176 '64. (MIRA 17:4)

1. Otdeleniye gornorudnykh problem AN UkrSSR.

NOVOZHILOV, M.G., prof.; TARTAKOVSKIY, B.N., kand.tekhn.nauk; ESKIN, V.S.,
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Substantiating the efficient limits for strip mining horizontal
deposits with the use of continuous-operation equipment. Izv.vys.
ucheb.zav.;gor.zhur. 7 no.7:3-7 '64. (MIRA 17:10)

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NOVOZHILOV, M.G., prof., doktor tekhn. nauk; TARTAKOVSKIY, B.N., kand.
tekhn. nauk; KIRILYUK, V.D., inzh.; SHAPAR', A.G., inzh.

Ways of creating a new technology for open-pit mining operations
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Gor. zhur. no.4:18-20 Ap '65. (MIRA 18:5)

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Haulage and waste disposal method of trenching using continuous
operation machine units. Izv. vys. ucheb. zav.; gor. zhur. 8 no.1:
7-10 '65. (MIRA 18:3)

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SAMORODOV, Yu.P., kand.tekhn.nauk

Flow sheets for mining working trenches with continuous machine
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NOVOZHILOV, M.G., prof.; TARTAKOVSKIY, B.N., kand. tekhn. nauk; GAVRILYUK, I.I., inzh.

Basis for the optimum height of the bench flux limestone quarries with the use of electronic computers. Izv. vys. ucheb. zav.; gor. zhur. 8 no.2:100-105 '65. (MIRA 18:5)

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theoretical bases] Potochnaia tekhnologiya otkrytoi raz-
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Naukova dumka, 1965. 249 p. (MIRA 18:9)

TARTAKOVSKIY, M.N., kand. tekhn. nauk; ABDUKAKHAROV, M.A., inzh.;
GORULYA, Ye.N., inzh.

Productive capacity of an open-pit mine depending on the method
of front shifting; using continuous waste-disposal conveying
units. Izv. vys. ucheb. zav.; gor. zhur. 8 no.7:31-34 '65.

(MIRA 18:9)

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rabot.

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Standard series of rotary bucket excavators in the German
Democratic Republic. Mat. i gornorud. prom. no.4:84-86
Jl-Ag '65.

(MIRA 18:16)

00013R001755020009-2
September 26, 2002 CIA-RDP86-00513R001755020009-2

TARTAKOVSKIY, B.H., kand. tekhn. nauk; GLUSKIN, L.I., kand. tekhn. nauk;
GAVRILYUK, I.I., inzh.; CHETVERIK, M.S., inzh.

Graphoanalytical method of investigating the regime stripping
operations. Sbor. trud. VNIIMorud no.4:33-41 '65.
(MIRA 18:11)

NOVOZHILOV, M.G., doktor tekhn. nauk; DRUKOVANYI, M.F., kand. tekhn. nauk;
TARTAKOVSKIY, B.N., kand. tekhn. nauk; YEFREMOV, E.I., kand.
tekhn. nauk; IL'IN, V.I., inzh.; GAVRILYUK, I.I., inzh.

Use of high benches in flux quarries. Varyv. delo no.57/14:
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nauk; ESKIN, V.S.; SEREDA, G.L.; ROYZEN, Ya.Sh.

Main trends in the technology of strip mining in the mines of
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prom. no.4:60-64 J1-Ag '65. (MIRA 18:10)

NOVOZHILOV, M.G., doktor tekhn. nauk; TARTAKOVSKIY, B.N., kand.
tekhn. nauk; ESKIN, V.S., kand. tekhn. nauk; KORSUNSKIY, G.Ya.,
inzh.

Parameters of an efficient flow-sheet for mining with belt
conveyor transportation. Ugol' Ukr. 10 no. 1:20-24 (MIRA 18:12)
Ja '66.

1. Dnepropetrovskiy gornyy institut.

AKIMOV, V.I.; ALEKSEYENKO, I.P.; ALENT'YEVA, K.A.; AMOSOV, N.M.; ARUTYUNOV, A.I.;
BRATUS', V.D.; VASHCHENKO, I.D.; GELLERMAN, D.S.; GRISHIN, M.A.;
DANKHEYVA, T.H.; DENISOVA, A.G.; DOLGOVA, M.P.; IVANOV, H.A.; ISHCHENKO,
I.N.; KATS, V.A.; KOLOMIYCHENKO, M.I.; LAVRIK, S.S.; LIMAREV, A.A.;
NAZAROVA, H.G.; NOVACHENKO, H.P.; PETRUNYA, S.P.; PKHAKADZE, A.L.;
RUDEENKO, F.A.; SERGIYEVSKIY, V.F.; TAYTSLIN, I.S.; TARTAKOVSKIY, B.S.;
CHIZHONOK, P.I.; SHALABALA, M.P.; SHUMADA, I.Y.; SHUPIK, P.L.

Konstantin Konstantinovich Skvortsov; obituary. Nov.khir.arkh.
no.3:142-143 My-Je '59. (MIRA 12:10)
(SKVORTSOV, KONSTANTIN KONSTANTINOVICH, 1871-1959)

TARTAKOVSKIY, B.S., dotsent (Lugansk)

Work of the Lugansk Scientific Society of Surgeons from September
1960 to September 1961. Klin.khir. no.6:92-93 Je '62.

(LUGANSK—SURGICAL SOCIETIES)

(MIRA 16:5)

TARTAKOVSKIY, B.S., dotsent (Lugansk)

Account of the second Interprovince Scientific Conference of
Physicians of Lugansk and Donetsk Provinces. Klin.khir. no.8:
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(SURGERY---CONGRESSES)

TARTAKOVSKIY, D.F.; CHISTYAKOV, V.A.

Experimental determination of the thermal inertia of a
resistance thermometer. Nov. nauch.-issl. rab. po metr.
VNIIM no.1:35-39 '63. (MIRA 17:9)

TARTAKOVSKIY, D.F.

Calculation of thermal inertia of industrial heat pickups. Izv. tskh.
no. 11:24-26 N '63. (MIRA 16:12)

TARTAKOVSKIY, D.F.

Design of measurement systems with and electric correction of
transducer inertness. Trudy inst.Kom.stand.mer i izm.prib. no.
71:187-197 '63. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii
im. D.I. Mendeleeva.

ACCESSION NR: AP4011538

B/0170/64/000/001/0071/0076

AUTHOR: Tartakovskiy, D. F.

TITLE: Certain techniques involved in correcting the dynamic characteristics of heat sensors

SOURCE: Inzhenerno-fizicheskiy zhurnal, ⁷no. 1, 1964, 71-76

TOPIC TAGS: thermal inertia, thermometry, thermistors, thermal inertia compensation, thermal inertia correction, thermistor calibration, heat transfer coefficient, thermoanemometry, heat sensors, heat sensor calibration.

ABSTRACT: In measuring varying temperatures with heat sensors such as thermistors, electrical correction is required to counteract the thermal inertia of the instrument. But proper correction can be applied only when the correcting circuit has a time constant equal to the thermal-inertia constant of the thermistor (or other heat sensor). Formulas are obtained for the thermal-inertia constants of homogeneous bodies in the form of an infinite cylinder, plate, and sphere in regular thermal regimes of three types, identified earlier, and designated as E_I , E_{II} , and E_{III} . These formulas relate the first type, which is simplest to calculate, to the other two, thereby facilitating calibration of the sensor for all three regimes. Curves

Card 1/2

ACCESSION NR: AP4011538

are plotted of the ratio of $\epsilon_{II}/\epsilon_I = f(BI)$ for the three bodies as well as a table of values of the ratio $\epsilon_{III}/\epsilon_I$ for various BI and HR . It is shown that a thin-wire thermistor may be treated as an infinite cylinder, and a method is suggested for finding the constant ϵ_{II} for a thermistor at the point of installation. An example is given, using the table, of calibrating a thermistor made of nickel wire for the third type of thermal regime. An equation is given which shows that a body heated above the temperature of the surrounding medium has a heat transfer coefficient related linearly, illustrated by a curve, to its thermal-inertia constant ϵ_{II} . The expression is useful in thermoanemometry, for example, in determining the thermal inertia of a constant-temperature filament. Original art. has 2 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii, Leningrad
(All-Union Scientific-Research Institute of Metrology)

SUBMITTED: 04Dec62

DATE ACQ: 14Feb64

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NO. REF SOV: 006

OTHER: 002

Card 2/2

80310

SOV/81-59-7-23070

5.5500

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 7, pp 144 - 145
(USSR)

AUTHORS: Shmonin, L.I., Cherdyntsev, V.V., Tartakovskiy, D.I.

TITLE: The Determination of Boron Content by Means of Irradiation With
Slow Neutrons ¹⁹

PERIODICAL: Uch. zap. Kazakhsk. un-ta, 1957, Vol 30, pp 7 - 11

ABSTRACT: A method was described for determination of B based on its raised ability (in comparison with other elements by a factor of some hundred) to absorb slow neutrons with the emission of α -particles and Li^7 nuclei according to the reaction: $\text{B}^{10} + n = \text{He}^4 + \text{Li}^7$, the quantity of which is practically proportional to the B content in the analyzed sample. A layer (3 - 5 mg/cm^2) of the finely-ground material to be analyzed is irradiated by neutrons from a Ra-Be-source (~ 0.15 Curie) moderated in a block of paraffin 7 cm thick, and the number of α -particles and Li^7 nuclei which are emitted by the sample in a time unit, is measured by means of a counter installation with a pulse ionization chamber. The content

Card 1/2

80310

SOV/81-59-7-23070

The Determination of Boron Content by Means of Irradiation With Slow Neutrons

of B is found from a calibration graph plotted with the application of standards made of CaCO_3 with additions of determined quantities of H_3BO_3 . In the case of a proper radioactivity of the analyzed samples exceeding 0.5 pulses per min, an allowance is made for the counting rate without irradiation by neutrons. The mean error of B determination at a content of $\geq 1\%$ is $\pm 10\%$; the determination lasts ~ 0.5 hour. In the case of a decrease of the B content to 0.1% , the mean error rises to $\pm 30\%$ and the determination takes several hours. ✓

A. Nemodruk

TARTAKOVSKIY, D.L., kandidat tekhnicheskikh nauk.

Building safety passage ways on both sides of haulage drifts.
Bezop.truda v prom. 1 no.5:12-14 '57. (MIRA 10:7)

1. Krivorozhskiy nauchno-issledovatel'skiy institut gornorudnoy
promyshlennosti.
(Mining engineering--Safety measures)

Report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

130. **Dr. A. Dymov (Moscow):** Problems of the theory of plasticity of materials under combined loading.
131. **Dr. A. Dymov (Moscow):** Elastic-plastic vibrations of rods of non-circular cross section.
132. **Dr. A. Eskin (Leningrad):** The forced nonlinear torsional vibration of a homogeneous prismatic rod and a very long rectangular plate.
133. **Dr. A. Eskin (Moscow):** On a method of solving the equations of interaction of infinite elastoplastic media in the presence of a singular field.
134. **Dr. A. G. Ginzburg (Moscow):** An engineering method for the design of open prismatic shells.
135. **Dr. A. Ginzburg (Moscow):** The effect of aging and anisotropy on the strength of concrete.
136. **Dr. A. Ginzburg (Leningrad):** On the use of rupture in creep.
137. **Dr. A. Ginzburg (Leningrad):** On some variational principles and variates in the theory of plasticity.
138. **Dr. A. Ginzburg (Moscow):** A procedure of determining an impact loading regime for large deformation.
139. **Dr. A. Ginzburg (Moscow):** Some generalizations of the formulae for the calculation of the critical load of a column with a rectangular cross section for their solution.
140. **Dr. A. G. Ginzburg (Moscow):** The flow of a viscoplastic medium in a shear.
141. **Dr. A. Ginzburg (Leningrad):** On the elastic equilibrium of thin elastic elastoplastic plates.
142. **Dr. V. G. Gerasimov (Moscow):** Models of the inhomogeneous processes for the formation of the bending moment in thin plates and shells.
143. **Dr. A. G. Gerasimov (Moscow):** Critical loads of prestressed arches.
144. **Dr. A. G. Gerasimov (Moscow):** On the stability of a homogeneous isotropic medium.
145. **Dr. A. G. Gerasimov (Moscow):** Dynamics stability of cylindrical and spherical shells.
146. **Dr. A. G. Gerasimov (Moscow):** The influence of initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
147. **Dr. A. G. Gerasimov (Moscow):** Elastic stability and post-buckling behavior.
148. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
149. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
150. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
151. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
152. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
153. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
154. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
155. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
156. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
157. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
158. **Dr. A. G. Gerasimov (Moscow):** The influence of the initial imperfections of shape on the stability of thin elastic cylindrical structures under static compression.
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KACHANOVSKIY, B.D.; BASEVICH, A.Z.; TARTAKOVSKIY, D.M.;
VASIL'YEV, P.I.; ZARUBAYEV, N.V.; CHUGAYEV, R.R.; KOZHEVNIKOV,
M.P.; KNOROV, V.S.; IVANOV, P.L.; SHCHAVELEV, D.S.; OKORCOV,
S.D.; BELOV, A.V.; STAROSTIN, S.M.; YAGN, Yu.I.; IZBASH, S.V.

Ivan Ivanovich Levi; on his 60th birthday. Gidr. stroi. 30
no.9:61-62 S '60. (MIRA 13:9)
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KOROTKIN, V.G., kand.tekhn.nauk, TARTAKOVSKIY, D.M., kand.tekhn.
nauk

Determining the pressure exerted on earth dams by
compacting sediments. Gidr. stroi. 30 no.6:35-40 Je
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(Dams)

TARTAKOVSKIY, D. M., ROSA, S. A., RYKOV, V. K., and KAPANOV, I. D.,
Leningrad Section of the Institute of Hydroelectric
Design, USSR

"The Building of Earth Structures by Dumping of Clayey Soils into
Water," a paper submitted at the 4th International Conference of the Inter-
national Society of Soil Mechanics and Foundation Engineering, London,
12-24 Aug 57.

KOROTKIN, V.G., kand.tekhn.nauk; TARTAKOVSK IY, D.M., kand.tekhn.nauk

One-dimensional problem of the compaction of saturated soil
With its varying characteristics. Gidr.stroi. 32 no.9:34-36
S '62. (MIRA 16:2)

(Soil stabilization)

KOROTKIN, V.G., kand.tekhn.nauk; TARTAKOVSKIY, D.M., kand.tekhn.nauk

Some problems of the design and calculations for high core
dams. Gidr.stroi. 33 no.4:32-37 Ap '63. (MIRA 16:4)
(Dams--Design and construction)

TARTAKOVSKIY, G. A. Dr. Tech. Sci.

Dissertation: "Analytical Investigation of the Problems of Drilling." Moscow
Order of the Labor Red Banner Petroleum Inst., imeni Academician I. M. Gubkin,
20 May 47.

SO: Vechernyaya Moskva, May, 1947 (Project #17836)

TARTAKOVSKIY, Grigoriy Aleksandrovich; NIKOLAYEVA, T.A., red. izd-va;
FARBER, A.M., red.; SOROKINA, I.M., tekhn. red.

[New system for the construction of pipelines in the form of
suspended lines; theory, calculations, design] Novaya sistema
sooruzheniia truboprovodov v vide provisaiushchikh nitel;
teoriia, raschet, proektirovanie. Moskva, Izd-vo M-va kommun.
khoz. RSFSR, 1961. 160 p. (MIRA 15:2)
(Pipelines)

TARTAKOVSKIY, G.A.

System of pipeline construction in the form of slack threads;
a topic for discussion. Neft. khoz. 39 no.7:53-57 J1 '61.
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TARTAKOVSKIY, G.I.

The young Communist is an outstanding worker. Avt. dor. 26
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(Road construction workers)

TARTAKOVSKIY, G. P.

USSR/Electronics - Frequency Characteristics Jul 52

"Computing the Time and Frequency Characteristics of Multicascade Systems," L. A. Meyerovich, G. P. Tartakovskiy

"Zhur Tekh Fiz" Vol XXII, No 7, pp 1200-1220

Author attempts to simplify complicated computations of multicascade systems by applying method of approximations. He finds the frequency characteristics of systems from the time characteristics, and the latter from characteristics of the composing cascades, on the basis of characteristic parameters.

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TARTAKOVSKIY, G.P.

On the theory of linear pulse systems with variable parameters.
Elektrosviaz' 10 no.11:3-14 N '56. (MLRA 9:12)

(Radio--Transmitters and transmission)
(Pulse techniques (Electronics))

TARTAKOVSKY, G. P.

"Automatic Systems of Discrete Action with Variable Parameters,"

paper read at the Session of the Acad. Sci. USSR, on Scientific Problems of Automatic
Production, 15-20 October 1956.
Avtomatika i telemekhanika, No. 2, p. 182-192, 1957.

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